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ABSTRACT

Though the original focus of this annotated bibliography was upon budgeting in the public community college, its scope was expanded to include articles on budgeting in four-year colleges and in some private two- and four-year institutions when the articles were relevant to community colleges. Due to the inter-relationship between budgeting and financing, articles dealing with the financing of higher education and state-level resource allocations were also included as they related to the specific budgeting process. Only nine articles, however, discuss financing specifically. Several of the cited articles are concerned with concrete budgeting techniques--Zero-Base Budgeting (ZBB) and Planning-Programming-Budgeting Systems (PPBS) are the most commonly discussed. Articles on cost analysis, assistance in budgeting decisions and preparation, fiscal contraction, and long- and short-range planning are also included. Entries, arranged alphabetically by author, include the title, publication date, ERIC accession number (where applicable), and a one-paragraph annotation. All of the 54 entries, with the exception of one, represent works written during the 1970's. (Author/JP)

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An Annotated Bibliography:

Budgeting in Higher Education

by

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NATIONAL INSTITUTE OF EDUCATION

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Introduction

Generally, budgeting is characterized as the essence of decision making and planning. This is because allocating resources within any organization forces managers to establish goals, prioritize those goals or objectives, develop a plan of action for the chosen priorities, monitor the progress and finally, evaluate the outcome(s). However, budgeting is usually considered more specifically as a required, systematic, detailed outline of the monetary operations of an institution over a given period of time. The budgeting process serves as a review of the past, as a current monitoring and controlling device, as an overall, multi-year picture of the fiscal state of the institution, and as a decision and planning tool.

Today, the budget and the budgeting process in higher education is receiving abundant attention due to the well documented scenario of rising costs, reduced funding, and declining enrollment. This increased attention focused on budgeting will be beneficial in the long-run as institutions are forced to be thirfty, imaginative, thoughtful and well managed.

I began this exercise by wanting to be familiar with what was contained in the literature with regard to budgeting in the public community colleges. The literature search was prompted by my hope to develop an instructional module on budgeting for higher education students at the University of Arkansas. The exploration, through necessity, expanded to include budgeting in four year colleges and some private two and four year schools, where the articles are relevant to Community Colleges. Furthermore, my interest in budgeting expanded. In this age of scarce money, it became important not only to know what colleges did with the money once they received it, i.e., how they budgeted it but, indeed, it

became important to understand how the college acquired the money initially. Therefore, financing of higher education or state-level resource allocation as it relates to the specific budget process, became included in this bibliography. Often, writings on budgeting and financing are combined which also contributed to the validity of the inclusion.

Below, many of the articles discuss both financing of higher education and budgeting in general. Only nine articles are reviewed that discuss financing specifically. Several of the cited articles have to do with concrete budgeting techniques, with Zero-Base Budgeting (ZBB) articles the most popular and Planning-Programming-Budgeting System (PPBS) the next most discussed. Articles on cost analysis or assistance in budgeting decisions and preparation are also annotated. Articles on fiscal contraction (the most diplomatic terminology found) are abundant and over eleven articles relate to long- and short-range planning and therefore planning becomes an underlying theme.

Articles surveyed in this annotated bibliography include only those from the current decade except for the inclusion of a 1944 classic for the purpose of perspective.

Adamson, Willie D., Zero Base Budgeting: A New Planning Tool for New Colleges, Feb. 24, 1978. (ED 149810)

Zero-Base Budgeting (ZBB) is the management of scarce resources on a cost/benefit basis to achieved goals. ZBB's process is:

1. define budget units
2. develop decision packages with goals, action, costs, benefits, workload, alternatives
3. rank decision packages

Examples and procedures are included.

Alexander, Donald L. and Roger C. Anderson, Zero-Base Budgeting: An Institutional Experience, May, 1978. (ED 154693)

Zero-base budgeting (ZBB) is defined and strengths and weaknesses summarized. Allegheny Community College (Maryland) is used as a case study.

Baldwin, Charles W., A Decision Theory Approach to College Resource Allocation, Feb. 22, 1978. (ED 149822)

This article is a review of current budget techniques which include:

1. Incremental Budgeting
2. Zero-Based Budgeting (ZBB)
3. Planning and Programming Budgeting System (PPBS)
4. Objectives, Strategies and Tactics (OST). This divides long-range strategies into shorter-range actions (decision-packages).
5. Analytical System Models, a linear mathematical modeling technique (goal programming).

Bers, John A., Tying Resources to Results: Integrating the Resource Allocation Process into Planning and Management in a Public Two-Year College, July, 1978. (ED 164021)

When budgets get tight tough-minded decisions about priorities are required. This paper describes a system that Godsen State Junior College (Alabama) used to respond to fiscal contraction. Key components of such a program include; enrollment-driven program costing procedure, a faculty-based Priorities Advisory Committee and integration of budgeting into the planning system. Specific problems discussed include:

1. objective of the budgetary process
2. alternative approaches to incremental budgeting (outcome-oriented budgeting, formula budgeting and cost analysis)
3. methodology

A bibliography is included and appendices contain policies and procedures and operational data.

Buchanan, A. Dean, "Budget Control and Analysis in the Small College", NACUBO Professional File, Vol. 9, No. 8, Aug., 1977. (ED 144499)

Institutions were surveyed and a checklist of management methods for budgeting is included, specifically:

1. conservative expenditure budgets
2. management by exception
3. decentralized budget control
4. proper budget authority
5. need for annual meeting
6. swift reaction to purchase requisitions

Budgeting for Higher Edu ation and The Legislative Oversight Process, Jan. 9, 1976. (ED 167074)

In this article, five papers are presented on higher educational budgeting and the legislative oversight process. Discussions include; legislators knowledge, retrenchment plans, formula systems, need for statewide coordination, budgeting trends, contracts and collective bargainings impact. Also described is a system for legislative oversight and policy.

"Budgeting of Post-Secondary Education in the Eighties", Financing Higher Education, No. 28, 1978. (ED 162592)

A key issue in the 1980's is how to tie in long-range planning to budgeting. A continuous problem is the revisement of the budgetary process to fit long-range plans, decreased enrollment and more intensive and detailed budgetary review required by state governments.

Carter, David I., "Computerized Budget System Puts Accountability into Accounting", College & University Business, Vol. 32, No. 4, April,

1972, p. 14-16.

This brief article reports on the University of Maine's conversion to a Computerized Budget System (CBS).

Carutheres, J. Kent & Melvin Orwig, Budgeting in Higher Education, Eric Report No. 3, 1979. (ED 169875)

Budgeting and budget planning in higher education are considered in the 110 page monograph. The question of whether budgeting is a technical or political exercise is discussed. Participation, with emphasis on centralization, is reviewed and decision making is also considered. The following five budget planning approaches are described in detail:

1. Performance Budgeting-Sometimes known as activity or functional budgeting. This began to be used after WW II. Performance budgeting focuses on what is achieved in programs and functions. (Input-Output)
2. PPBS-Emphasized planning in the planned budgeting system. Relies on computers.
3. Incremental budgeting-This is one of the oldest budget building approaches. In incremental, each line item is either considered for an increment or is unadjusted.
4. Formula Budgeting-This technique uses a formula to determine financial needs and operating requirements.
5. ZBB-A total rejustification of every activity is required.

Change Panel on Academic Economics, Colleges & Money, 1976.

This Change Magazine paper, subtitled "A Faculty Guide to Academic Economics" is a useful and concise document. The paper addresses the fundamentals of academic economics, those key points that the faculty must understand. The faculty's understanding must then be broadened to include principles of budgeting and management. Their education is for the purpose of participation in the budgeting process. Finally, education efficiency, decision making and educational costs are analyzed. A good reference list of books/papers is included.

Cherrington, B. E., "Cost Analysis in Academic Decision Making", Educational Record, Vol. 60, Spring, 1979, p. 185-96.

Criteria for assistance in budgetary decision-making are set forth. Useful cost analysis techniques must be flexible and adaptable, probably

decentralized, contain a central data bank, take into account direct and indirect cost, reflect total expenditure in each category, and reflect fixed and variable costs. Such a cost analysis system helps academic administrators assess the budgetary implications in decision making.

Dozier, John M., "The Retrenchment Knife", AGB Reports, Vol. 18, No. 1, Jan./Feb., 1976, p. 10-13.

The author, a man of much practical experience, feels that budgets should be "policy-supporting documents rather than policy making documents." Allocation of money must be made which will support the goals of the Institution. A 5-year plan in both planning and budgeting is essential and new programs must be analyzed for a 5-year period. A continuous planning process which evaluates results and eliminates the obsolete and unproductive and ensures changes is the first and most important step in achieving budget economics. In budget cutting times the institution must adhere to their plans and develop the philosophy that "nothing is sacred" and that personnel cuts are inevitable as horizontal personnel cuts seldom speak to institutional good health.

Dunworth, John & Rupert Cook, "Budgeting Devolution as an Aid to University Efficiency", Higher Education, Vol. 5, No. 2, May, 1976, p. 153-67.

The position taken in this writing is that there is a strong economic case for changing the existing system of resource allocation in order to provide incentives to increase overall efficiency. This is accomplished by a budgetary formula which relates provision with need, and includes strong incentives to improve efficiency. The budget formula would roughly include; a budget for each academic unit, size of budget related to unit's student load, and much greater responsibility to each unit for spending the budget.

Financial Support for Community Colleges: A Bibliographic Summary with Abstracts, April 20, 1979. (ED 168645)

This was prepared for the Presidents Council of the Arizona Community Colleges. This is an annotated bibliography, arranged alphabetically by title. Most documents reviewed are ERIC documents. Subjects of articles

include community college financing, tuition, cost per student studies, methods and policies of financing, planning, etc.

Fischer, William B., and Robert H. Stauffer, "Starting From Ground Zero", Community and Junior College Journal, Vol. 48, No. 5, Feb., 1978, p. 19-21.

In the 1970's colleges must be fiscally conservative. Erie County Community College in Buffalo, New York, is cited as a college who experienced a recent fiscal crises and this article recounts their approach to dealing with the problems. A combination of zero-based and program budgeting was used. This called for the complete review of each academic program, and its inputs and outputs. The goals of the system include:

1. Review of all program costs
2. Relate actual program outputs to stated program objectives
3. Develop a budget proposal based on the most effective utilization of total college budget resources in terms of productivity and output. The zero-based program budgeting system provided a rational approach to decision-making, especially during a fiscal crisis.

Gamso, Gary, An Approach to Cost Studies in Small Colleges, 1978. (ED 163867)

This manual provides a small-college administrator with a simplified approach to instructional and related cost analysis. This is designed for the college who can not afford a computer. Simple worksheets for cost-analysis computations are included. National Center for Higher Education Management System (NCHEMS) provided the models. Along with cost analysis, and information on constructing instructional workload matrix, cost and costing principles are also included.

Gamso, Gary, "The RRPM Guide: A Primer for Using the NCHEMS Resource Requirements Prediction Model", NCHEMS Technical Report 104, Aug., 1977. (ED 144520)

The Resource Requirement Prediction Model (RRPM) is a computer-based system for generalizing cost simulations. This RRPM article is a primer. It is fully discussed and the manual's purpose is to see if this computer package would be beneficial or useful to a particular institution.

Garms, Walter I., Financing Community Colleges, New York: Teachers College Press, 1977.

The author begins with a justification about why U.S. Community Colleges should be funded and provides a historical perspective of funding. Following, discussed the pros and cons of nine possible finance models as they relate to criteria he has laid out. Two new models of community college finance are highlighted. These models are a planned-economy model and a mixed-economy model.

Glenny, Lyman A., etc,. State Budgeting for Higher Education: Data Digest, Center for Research and Development in Higher Education, University of California, Berkeley, 1975.

This report is on a three-year, fifty-state study of the procedures used by state agencies in formulating the budgets of colleges and universities. Specifically, the report examines the interrelationships etc. of state agencies in the budgetary process and the congruence/incongruence and confidence/distrustfulness that is the outcome of the state agencies role(s) in the budget process.

Gross. Francis M., "A Comparative of the Existing Budget Formulas etc." Institutional Research Bulletin, Vol. 14, No. 9, Dec., 1973. (ED 168409)

This dissertation identifies and analyses current formulas used for justifying or allocating budget monies. The conclusions are that formula budgeting is on the increase and tends to be used by states who spend less. The author recommends no single formula model for universal use for reason of vast existing differences in four-year state-supported colleges and universities.

Harvey, L. James, Zero-Base Budgeting, 1978. (ED 164019)

Zero-Base Budgeting (ZBB) is based on the premises of reviewing all programs and expenditures yearly, setting goals and analyzing alternatives. This article outlines ZBB applications, advantages, disadvantages, and implementation in an effective Planning Management and Evlauation (PME) system. Appendices contain a checklist of possible decision units, sample forms for decision packages and a bibliography.

Hentsclke, Gilbert C., "Is Zero-Based Budgeting Different from Planning-Programming-Budgeting Systems?", Planning & Changing, Vol. 8, No. 2 & 3, Sum./Fall, 1979, P. 128-39.

In this article the differences between ZBB and PPBS are discussed. Also analyzed are the questions; will the problems that beset PPBS also curtail ZBB and will ZBB be more successful than PPBS?

Hussain, K. M., "Institutional Resource Allocation Models in Higher Education", Studies in Higher Education, 1976. (ED 138216)

The thesis of this paper is the design and implementation of resource allocation models. Planning models are specifically outlined here as they are just one technique used in the planning and budgeting process. Planning models are used in examining different budget alternatives, particularly as expenditures have increased. The reports further examines four resource allocation models (HIS, MSAR, TUSS Models) and concepts of PPB.

Jillema, William W. Ed., Efficient College Management, San Francisco: Jossey-Bass, 1972.

The main thesis of this book is fiscal aspects of certain management problems that colleges face today. The four parts of the book deals with first, the need for and uses of information needed for budgeting and long-range planning. This includes discussion on PPBS. The second section deals with internal and external cooperation in relationship to budgeting. Collective bargaining and stability are highlighted here. In section three student expense is examined. Finally, the special budgetary problems of private institutions are analyzed.

Kamenitzer, Richard P,. and D. Gordon Gibson, "Program Cost System Helps New Jersey Community Colleges Spend Money Wisely", College and University Business, Vol. 55, No. 1, July, 1973, p. 28.

The initial step of a program-planning-budgetary system for a New Jersey community college is described. The first step, program, provides a way to determine the cost of existing programs and a basis for estimating costs for new programs. The total cost of a curriculum program includes, instructor's salaries as well as indirect administrators and physical plant costs. This type of analysis allows one college to compare their program expenditures with another and also affords evaluation

of the effectiveness of instructional resources, enrollments, physical plant resources. Just this initial step allows colleges to better allocate their available financial resources.

Kastner, Harold H. Jr., "Budgeting and Accounting", College and University Business, Vol. 51, No. 6, Dec, 1971, p. 34-35.

The "carry-over" or reserve cash balance often brought forward into the new budget is discussed. This carry over is very misunderstood as it looks like a surplus to the public unless administrators explain its budgetary purpose. Many states operate on a minimum foundation program which is a funding system that provides the financial support deemed necessary to achieve the minimum requirements of a desirable educational program. Due to a minimum foundation system a carry over is essential to allow for growth and initial expenditures as minimum funding is usually provided after the budget has been approved. This delay in the actual receiving of funds is caused by the various collection schedules of the different taxes whose funds compose the budget.

Knerr, Anthony D., "Budgeting: The Princeton Prototype", Planning for Higher Education, Vol. 2, No. 1: 3/3, Feb., 1973, p. 9-12.

A 500 page report "Budgeting and Resource Allocation at Princeton" is analyzed by the author. Changes in the early 1970's brought about a need for a effective, systematic budget system. Princeton adapted a budget system, the major components of which included:

1. A schedule to permit simultaneous consideration of all major demands
2. A plan which allowed for multi-year planning
3. A standardized definition of teaching requirements to analyze faculty staffing
4. Broader praticipation achieved through establishing a University Priorities Committee
5. A program-based budget

The advantages Princeton sees in this system are:

1. Greater awareness of total costs of various activities
2. Provided a multi-year planning context for decision-making
3. Reduced need to review every area yearly

The disadvantages include:

1. Clarifying, identifying program categories, components and outputs
2. Expensive to develop and update and therefore suggests several smaller analytic studies prior to developing a total system.

The Priorities Committee was the key to the effectiveness of Princeton's new budget system as budget was tied into decision-making.

Kravitz, Bernard J., "Can Zero Base Budgeting Work for You?", American School & University, Vol. 50, No. 4, Dec., 1977, p. 38-39.

This article concisely describes the popular management system; Zero Base Budgeting (ZBB). ZBB is briefly compared to the traditional budgeting forms, i.e., budgeting in a vacuum, incremental budgeting, and planning by budgeting. Then the four basic steps of ZBB process are laid out. The three key premises of ZBB are outlined. They are:

1. Each program and activities are subject to justification.
2. The consequences of not performing a service or performing at a reduced level can be examined.
3. Alternative methods of delivering a service are identifed.

Finally the advantages of ZBB are presented.

Linhart, Cynthia A. & John L. Yeager, A Review of Selected State Budget Formulas for the Support of Postsecondary Educational Institutions, Feb., 1978. (ED 154685)

This document provides a thorough analysis of formula budgeting. The history, definition, examples, samples, advantages, disadvantages, philosophy, major components, types, process, maintenance of formula budgeting are discussed. Various formula summaries and technical descriptions are provided in the appendix. Recommendations are made concerning the initiation of formula budgeting for Pennsylvania.

Toler, Thomas M., PPBS: Its Impact Upon Curriculum Decisions. (ED 136897)

Programming-planning-budgeting systems (PPBS) is reviewed in this paper. The implications for curriculum planning and decision making is specifically investigated. One major fear is that technical programs, whose costs are high, may not receive sufficient funding under PPBS. New York Community Colleges are used as examples.

Lombardi, John, "Community College Financing in the Post-Proposition 13 Erd", Junior College Resource Review, Jan., 1979. (ED 162712)

The effects of Proposition 13 and other issues like it are not fully felt yet. In light of this, Lombardi discusses four funding patterns:

1. Negotiated Budget
2. Unit Rate Formula
3. Minimum Foundation (equalization)
4. Cost-Based Program

The author predicts that if inflation does not end and a serious recession soon hits, "the lean years for community colleges... (will) extend into the 1980's." A bibliography is included.

Lombardi, John, "Critical Decade for Community College Financing", New Directions for Community Colleges, No. 2, Sum., 1973, p. 109-120.

Lombardi outlines the trends (bad times) that community colleges will face.

Lombardi, John, Managing Finances in Community Colleges, San Francisco: Jossey-Bass, 1973.

In this book, Lombardi explores the changes in the public educational system and the current financial crises in education. Also discussed is the sources of revenue. The author's concern is finances in the community college setting. He specifically covers; patterns of financing, control of expenditures, financial planning, managerial efficiency, per capita cost, utilization of physical facilities, new building, faculty productivity.

Lukitsh, Robert A. & Samuel H. Sesskin, "Community College Built Itself a Cost-Analysis System Based on Experience", College & University Business, Vol. 55, No. 6, Dec., 1973, p. 26-27.

Nassau Community College (New York) entered a computerization of the budgeting system in 1972, believed to be the first comprehensive budget tool to be put into operation in the U.S. Given a basic data bank, the program can show each departments past performance over a five year

time span. Refinements were made which allowed analysis of each department according to its own full-time equivalent (FTE) students cost per student per department, cost per credit taught, cost per graduate, were figured, allowing for special administrative costs to be fairly distributed.

Martorana, S. O. & James L. Wattenbarger, Principles, Practices, and Alternatives in State Methods of Financing Community Colleges and an Approach to Their Evaluation, Report No. 32, April, 1978. (ED 158807)

This book, authored by two foremost authorities in the financing of community colleges, first outlines the current financial dilemmas. Negotiated budget under full state support, unit rate formulas, minimum foundation funding and cost-based funding are then discussed as the approaches generally advocated for sound community college funding. Goals, principles and evaluative criteria are then proposed. Seven criteria were designated by the authors for use in evaluating state financing plans for the public community college. A chart depicts the strengths and weaknesses of each such methods. Finally the Pennsylvania Financing Approach is compared with other states and funding alternatives are examined.

Mathews, Fred I., "A Hard Look at Finance", New Directions for Community Colleges, Vol. 4, No. 3, Aut., 1976, p. 65-67.

The author's contention is that the basic methods for bringing about financial stability out of chaos rests with the Board of Trustees. The trustee must be educated in fiscal matters and be able to make hard business decisions necessary for achieving a balanced and logical budget. The trustees must first evaluate themselves and then their President to see if they meet the new criteria, if not, the Board and President should be purged. The Board then requests a detailed and balanced budget which is subsequently reviewed quite carefully. Once the budget review is completed, the President and his/her administrative staff must have the freedom to spend what has been budgeted without undue constraints. The Board, finally, should review the budget quarterly.

Mayer, R. Charles & William J. Krettow, "The Resource Allocation Decision in U.S. Colleges & Universities: Practice Problems & Recommendations", Higher Education, Vol. 7, Feb., 1978, p. 35-46.

The article draws from questionnaires covering evaluation processes used in making resource allocation decisions administered to 200 vice presidents of finance of U. S. colleges & universities. The analysis includes specific planning and budgeting techniques used and suggested avenues for improved decision-making. One interesting conclusion is that there is a strong parallel between capital evaluation procedures used in hospitals and those used in universities.

Michalak, Craig L., ed., Managing Tomorrow's University, Sept., 1977. (ED 168393)

This is a set of speeches for the proceedings of the University of California Academic Business Officer's Conference. Key points discussed include budgeting in times of scarce resources, the role of the business manager, and management information systems.

Millitt, John D., "Financing Instruction in Public Higher Education." NACUBO Professional File, Vol. 9, No. 7, July 1977. (ED 144500)

The essential and separate three "budgets" in higher education are:

1) for instruction
2) for student financial assistance
3) for auxiliary purposes

These three budgets are discussed.

Menir, Norris, Flexibility and a Departmental Instructional Planning Model. (ED 165848) Date of publication not given.

This paper presents a model for quick cost analysis of various alternatives proposed within the instructional component of a budget, to be used during times of budget reduction. It provides formulas for determining production and productivity ratios of faculty. Appendices provide illustrations from Seminole Community College (Florida).

Mowbray, George & Jack B. Levine, "The Development and Implementation of CAMPUS: A Computer-Based Planning & Budgeting System for Universities

and Colleges", Educational Technology, Vol. 11, No. 5, May, 1971, p. 27-32.

CAMPUS, described in this article, is a system of simulation models and information systems of budgeting techniques designed to help college planners understand the cost implication of various ideas and their implications for the future. The simulation, originated at the University of Toronto (1964), is designed to answer the questions "what would happen if..." CAMPUS requires considerable input data, the output generated is specific and can operate even at the departmental level.

1979-80 Budget Process Phase I: Educational Programs Procedures Manual, Nov., 1978. (ED 161487)

The budget development process is divided into three phases: educational programs, district fiscal plan and the operational plan. This procedures manual describes each phase, the relationship between each phase and provides instruction for and worksheets on instructional scheduling, student and instructional services and certificated staff summary.

Pettit, Joseph, A Role for Homemade Financing Models in Faculty Staffing and Resource Allocations, Oct. 27, 1978. (ED 165540)

This brief paper summarized efforts at Georgetown University to formulate financial models to assist in staffing and allocation decisions. Two models—program and departmental—were analyzed.

Robins, Gerald B., Understanding the College Budget, Athens: University of Georgia, Mrach, 1973.

This short, concise paperback defines budgeting and describes a number of kinds of budget (line item, program, incremental, zero-based, formula). Types of expenditures are also discussed. The budgeting process and planning are then analyzed. An outline for preparing the budget document is finally included. This book contains a good, brief annotated reference section and glossary.

"The Role of the Faculty in Budgeting and Salary Matters", AAUP Bulletin, Vol. 62, No. 4, Dec., 1976, p. 379-381.

This statement, approved in 1972 by the AAUP, deals with and defines role of the faculty in decisions as to the allocating of financial resources, specifically budgeting and salary decisions.

Russell, John Dale, The Finance of Higher Education, 1944. (Place of publication not cited.)

This is a classic "textbook" in finance of higher education. The purpose of this writing is to supply a comprehensive outline of budgeting. Topics discussed include; organization of a college business office, educational financial accounting, budget procedures, history and definition of budgeting, audits, financial reports, classifications, analysis of expenditures, financial sources, student fees, financial aid, trust funds, purchasing, and financial promotion. The reading lends a historical perspective and firm basis from which to build.

Salley, Charles D., Predicting Next Year's Resources--Short-Term Enrollment Forecasting for Accurate Budget Planning, Air Forum Paper, May, 1978. (ED 161383)

Reliable budget projections are often dependent upon accurate enrollment forecasts. These forecasts are crucial because tuition composes such a large part of the college's revenue and also, revenue allocations are tied to a state funding formula of credit-hour enrollment. This study suggests using the traditional time series analysis to identify stable short-term enrollment patterns. These techniques are applied to a large urban public university.

Scheidt, Omar H., Institutional Responses to Forced Budget Reductions, Oct., 1978. (ED 161478)

This article recounts the budget reductions Palomar College (California) installed after Proposition 13. These reductions included:

1. Salary schedules.
2. Allocations for hourly pay, eliminating need for emergency overload policy.
3. A contingency plan if "statewide freeze should end".
4. Implement a modified suabatical plan.
5. Elimination of positions (temporary).

6) Assignment of non-teaching certificated staff to the classroom.

7) Reduction in overtime, travel, membership, equipment.

8) Reduction in community services and capital outlay.

Scheidt, Omar H., Washington State System of Community Colleges, Oct., 1978. (ED 161479)

Washington state's community college system uses a computerized formula-driven budget models for the purposes of legislative request and for distributing resources among the community colleges. This loose-leaf manual outlines what data you need to operate the formulas. The five formula areas are; instructional program, library and learning resource center, plant operation and maintenance, student service, and institutional support formula. Budget schedule forms are provided for the five formula areas.

Schmidtlein, Frank A. & Lyman A. Glenny, State Budgeting for Higher Education: The Political Economy of the Process, 1977. (ED 138171)

This lengthy report highlights the dilemmas of state budget processes. Specific chapters are dedicated to; effectiveness of budget process, organization of process, assessment of state-level budget structures, context/character of institutional budget submissions, state-level reviews, future trend.

Sheehan, Bernard S. & others, A Financial Plan for Alberta Colleges and Universities: Recommendations and Research Results, March, 1977. (ED 154665)

This large (589 pages) report is the Financial Plan for Alberta (Canada) colleges and universities. The report briefly reviews financing practices. The planning program, alternatives, conclusions, and recommendations for Alberta are included. Information included can be of overall helpfulness.

Smith, J. Stephen & Arch Miller Jr., "Getting Started in Program Budgeting", College and University Business, Vol. 55, No. 5, Nov., 1973, p. 31-39.

This is a study of who is and isn't using programming-planning-budgeting

system (PPBS) or program budgeting (PB) and the advantages and disadvantages of such a system. A bibliography on PPBS is enclosed. PPBS is one answer to the demands for accountability from the public as it is a system which determines the cost benefit or cost effectiveness of educational programs. Defining a programs outputs is difficult in an education setting however, i.e., can you measure student credit hours taught, student majors graduated, teaching faculty employed, changes made in student's intellectual capacity? It is, on the other hand, helpful to know how much the English or History, or Nursing program is costing. Some advantages of PPBS include:

1) Program evaluation and monitoring made easier
2) May result in improved allocation of resources to instructional goals
3) Flexible
4) Planning and priority setting facilitated

Disadvantages of PPBS include:

1) Expensive (PPBS may be more adaptable for a smaller, specialized institution)
2) Time-consuming
3) Difficult to get academic community to think in terms of cost benefits
4) New training required and more paperwork generated

Steen, Ralph W. & others, The Texas Formula System, March 1979, (ED 169811)

The Texas formula funding system is explained and illustrated. This system is considered more complicated than other states, specific areas of formula are examined also.

Thomas, Donald, "Budget Cutting: Lessons From Experience", American School and University, Vol. 50, No. 3, Nov., 1977, p. 855-875.

This article, lists 17 ways to cut the budget. While addressed to the public schools, the suggestions are apropos for higher education. The author's suggestions for saving funds include:

1) Performance standards tied to salary.
2) Carefully planned and monitored staffing procedures.
3) Use ZBB.
4) Be sure that employment policies are strictly followed, i.e., time off.

5) Be creative with empty space, i.e., rent.

6) Sell surplus property.

7) Use volunteers, interns and partial year contracts.

Truzenberg, Donald, "The Target Ratio Model for Planning and Budgeting", Planning for Higher Education, Vol. 5, No. 6:1/5, Dec., 1976, p. 1-5.

This paper presents a simple and practical model, entitled "target ratio", which relates budgeting to planning. The basic issue in planning and budgeting is the necessity of balancing resource needs and budgetary constraints. The procedure is a total college, within a university, recieves budget expectations and then the college dean sets a target ratio (income to expense ratio) for each department. The contribution of each department toward fulfilling the overall college budget is acknowledged by a simple formula relating the college ratio to the departmental ratio. This procedure supports the planning process by providing departments with realistic expectations of the budgetary resources available.

Wattenbarger, James I. & others, "State-Local Financing for the Seventies", New Directions for Community Colleges, No. 2, Sum., 1973, p. 1-16.

The recent trend seems to be that local support for community colleges is likely to be replaced by state support as money gets tighter and costs rise. This article examines four major tax structures supporting community colleges; property tax, personal income tax, sales tax, corporate tax.

Yeager, John L. & Cynthia A. Linhart, "Adequacy of Budget Formulas for Balancing Insitutional Needs and Resources in Non-Growth Periods", Air Fourm Paper, 1978. (ED 161333)

Many states have developed budget formulas to derive estimates of the fiscal requirement of institutions. Many feel these formulas will not be responsive during the next decades. Two questions are analyzed in this article:

1) To what extent are budget formulas responsive to changing enrollment?

2) To what extent are the interval budget factors concerning formula adequacy affected by enrollemnt shifts?

Finally, examination of results, given various scenaries, are applied to five state budget formulas.

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